



US009408455B2

(12) **United States Patent**
Py

(10) **Patent No.:** **US 9,408,455 B2**
(45) **Date of Patent:** ***Aug. 9, 2016**

(54) **CONTAINER AND VALVE ASSEMBLY FOR
STORING AND DISPENSING SUBSTANCES,
AND RELATED METHOD**

USPC 222/92–107, 491–497, 490; 251/335.1,
251/336

See application file for complete search history.

(75) Inventor: **Daniel Py**, Larchmont, NY (US)

(56) **References Cited**

(73) Assignee: **MedInstill Development, LLC**, New
Milford, CT (US)

U.S. PATENT DOCUMENTS

1,392,600 A 10/1921 Rose
1,471,091 A 10/1923 Bessesen

(Continued)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-
claimer.

FOREIGN PATENT DOCUMENTS

CN 2436454 6/2001
EP 0 172 711 2/1986

(Continued)

(21) Appl. No.: **12/701,194**

(22) Filed: **Feb. 5, 2010**

OTHER PUBLICATIONS

(65) **Prior Publication Data**

US 2010/0140290 A1 Jun. 10, 2010

Supplementary European Search Report mailed Mar. 14, 2008 in
European Application No. 01 987 242.

(Continued)

Related U.S. Application Data

(63) Continuation of application No. 11/938,103, filed on
Nov. 9, 2007, now Pat. No. 8,672,195, which is a
continuation of application No. 10/976,349, filed on
Oct. 28, 2004, now Pat. No. 7,637,401, which is a

(Continued)

Primary Examiner — Patrick M Buechner

(74) *Attorney, Agent, or Firm* — McCarter & English, LLP

(51) **Int. Cl.**

B67B 7/00 (2006.01)

B65D 5/72 (2006.01)

(Continued)

(57)

ABSTRACT

A device and method for aseptically storing and dispensing a liquid. The device has container forming a variable-volume storage chamber, and a one-way valve coupled in fluid communication with the storage chamber and having an elastic valve member forming a normally closed valve opening. The valve member is movable between a normally closed position, and an open position with at least a segment of the elastic valve member spaced radially away from the closed position to allow the passage of fluid from the storage chamber through the valve opening. The liquid is maintained hermetically sealed in the storage chamber with respect to ambient atmosphere throughout dispensing multiple portions of the liquid from the storage chamber through the one-way valve.

(52) **U.S. Cl.**

CPC **A45D 40/26** (2013.01); **B65D 35/06**
(2013.01); **B65D 35/08** (2013.01); **B65D 35/38**
(2013.01); **B65D 47/205** (2013.01); **B65D**
83/0055 (2013.01)

(58) **Field of Classification Search**

CPC A45D 40/26; B65D 35/06; B65D 35/08;
B65D 35/38; B65D 47/205; B65D 83/0055

68 Claims, 28 Drawing Sheets

